

CHAPTER 4. FISONS LIMITED

I. HISTORY AND DEVELOPMENT

Origin

171. Fisons traces its history to the fertiliser business set up by Edward Packard in 1843. Packard was one of the early pioneers in the method of manufacturing chemical fertilisers by dissolving bones or coprolites in sulphuric acid, and built the first complete acid and superphosphate factory in the United Kingdom at Bramford near Ipswich in the 1850s. The business grew and the firm was incorporated in 1895 as Edward Packard and Company Ltd. with a capital of £100,000. In 1919 the business of James Fison and Company of Thetford, founded in 1808, was purchased and the name of the company changed to Packard and James Fison (Thetford) Limited. Soon afterwards trading conditions became bad, associated with the decline in United Kingdom agriculture and the importation of large quantities of foreign superphosphate, as described in paragraphs 58 and 59. In addition to the general measures taken in concert with the other manufacturers the directors of the company considered that some amalgamation of English manufacturers would be necessary to secure rationalisation of production and the technical improvements essential to the survival of the industry. Accordingly the company amalgamated in 1929 with its two principal competitors in East Anglia, Joseph Fison and Company (founded 1847) and Prentice Bros. Ltd. (founded 1856) to form Fison, Packard and Prentice Limited* with an issued share capital of £520,000. With the exception of Joseph Fison & Co., which specialised in the manufacture and sale of compounds and had an extensive sales organisation, the fertiliser businesses of the amalgamating companies were essentially local.

172. During the next fifteen years Fisons acquired thirty-two existing companies in the fertiliser trade and registered five new companies as subsidiaries. These are set out in Appendix 6. The results of these acquisitions and of the associated developments described in paragraph 176 onwards were the extension of Fisons' local fertiliser business to trade on a national scale in England and Wales, the increase of its manufacturing capacity for superphosphates and compounds and the addition of important basic slag interests and an interest in ammonium sulphate.

Acquisitions

173. The businesses acquired were, with one exception, small private companies founded and run on family business lines and trading locally. In almost all cases the approach was made by the prospective vendors. Amalgamation was brought about in most cases by an exchange of shares, the usual basis for which was that the Fisons shares allotted to the vendors at the current market price should be of an amount to yield an income equivalent to that yielded by investment in the old business. Cash payments were made in some cases by way of supplementation, or of compensation to directors, and in a few cases as the only consideration for purchase. The exception referred to above was the Anglo-Continental Guano Works Ltd. with its subsidies, a group which, when acquired in 1937, was probably

* For convenience we refer to the company as Fisons, though the name was not changed to Fisons Limited until 1942.

larger than the Fisons group. The former group had developed since 1917 by a series of acquisitions, mostly through nominees, the ownership of the acquired companies being largely unknown to the public. There was no co-ordinated sales policy, and the majority of its directors were representatives of financial interests, its fertiliser activities being virtually controlled by its managing director. He died suddenly in 1937 and the company, finding it extremely difficult to fill the gap, turned to Fisons, its largest competitor, and sought a merger. Fisons bought the 375,000 £1 preference shares and 400,000 (issued) 10s. ordinary shares at the rates of 27s. 6d. and 15s. respectively per share.

New Subsidiaries

174. New subsidiary companies were set up in the 1930s, three of them, National Fertilizers Ltd., Fisons' Fertilizers (Western) Ltd. and Corby Basic Slag Ltd., resulting from arrangements made between Fisons and the Imperial Smelting Corporation Ltd. (I.S.C.). I.S.C. had important smelting interests, operated by its subsidiary, National Smelting Co. Ltd., at Avonmouth and minor fertiliser interests, managed by the latter company's subsidiary, the Basic Slag and Phosphate Companies Ltd., which was engaged almost entirely in the grinding, bagging and distribution of basic slag in South Wales and the South West of England. In 1933 I.S.C. found that its subsidiary had an excess of by-product sulphuric acid for which at the time the most economic outlet was the manufacture of superphosphate. I.S.C. was prepared to manufacture but had no extensive organisation for selling, such as Fisons could provide. Fisons and I.S.C. came to terms and in 1934 set up jointly a new company, *National Fertilizers Ltd.*, to trade in the West of England. Fisons held £204,000 of the £404,000 capital issued by the company. A new factory to manufacture superphosphate was built and operated by I.S.C. and the sale organisation was provided by *Fisons' Fertilizers (Western) Ltd.*, a new company set up as a subsidiary of National Fertilizers Ltd. which was staffed by Fisons. As part of the arrangement Fisons gave up its fertiliser selling interests in a defined area (broadly speaking, the West of England) to National Fertilizers Ltd. and National Smelting Co. Ltd. assigned its fertiliser interests (viz. the goodwill of Basic Slag and Phosphate Companies Ltd. and certain leases at Gowerton and Panteg) to National Fertilizers Ltd. The territorial demarcation was observed for some years, and whenever new interests were acquired by Fisons which traded in the west the appropriate portions were transferred to National Fertilizers Ltd. *Corby Basic Slag Ltd.* was set up as a subsidiary of National Fertilizers Ltd. in 1935 and agreements were concluded in 1935 and 1938, respectively, with Stewarts and Lloyds Ltd. and Richard Thomas and Co. Ltd., the two steel producers which first reintroduced the basic Bessemer process in this country, to take virtually their total available supplies of high grade Bessemer slag.

175. Of Fisons' other new subsidiaries, *Doughty Goole Fertilizers Ltd.*, registered in 1939, was formed by merging Doughty Richardson Fertilizers, a company acquired in 1930 by Fisons, with Goole Tillage Co. Ltd., a subsidiary of Anglo-Continental Guano Works Ltd., acquired in 1937, with the object of retaining the brand names of each and providing a parent company for the administration of the Humber region. *Nitrogen Fertilisers*

Ltd. was set up in 1937 in conjunction with the West Norfolk Farmers' Manure and Chemical Co-operative Company Ltd. to manufacture synthetic ammonium sulphate (see paragraph 196).

Production and Marketing Policy

176. In the period just described new low cost superphosphate plants were built at Cliff Quay, Ipswich, in 1930 and Avonmouth in 1935. The former was the first completely mechanised superphosphate factory in the United Kingdom and was built on the edge of a deepwater dock for the direct reception of the imported materials on which the industry had come to depend. Superphosphate was sent to a number of small works in the East and West of England for compound manufacture and a number of small superphosphate and sulphuric acid plants were closed down. A process of rationalisation of production continued and it is to this and to associated improvements in efficiency that the company primarily attributes its growth in the inter-war years.*

177. On the marketing and distribution side a more conservative policy was pursued. Generally, on taking over businesses, it was Fisons' policy to continue to use the old brand names in order to retain the goodwill of the customers concerned. (In the case of partnerships a small private company of similar name was often registered with a nominal capital to protect the goodwill.) A large number of subsidiary companies consequently continued to trade, and Fisons considers that the cost of distribution probably remained unaltered. As the organisation of Fisons developed some of the smaller subsidiaries were placed under the control of the leading Fisons subsidiary in their particular region. All subsidiaries were acknowledged either as direct or indirect subsidiaries of Fisons, and controlling shares were always held in the name of the company concerned and never by nominees. By 1942 the Fisons group was divided into four regions :

- (1) The Home Region, covering East Anglia and the South Eastern Counties, controlled by Fisons and its direct subsidiaries.
- (2) The Humber Region, with Doughty Goole Fertilizers Ltd. as the controlling company.
- (3) The Northern Region, with Langdales and Northern Fertilizers Ltd. (formed by the amalgamation of Langdales Chemical Manure Co. Ltd. and Northern Fertilizers Ltd.) as the main subsidiary.
- (4) The Western Region, controlled by National Fertilizers Ltd.

The three local Boards were autonomous with Fisons' representatives on them.

178. Fisons estimates that by 1939 it was responsible for 33½ per cent. of the superphosphate, 3½ per cent. of the ground rock and about 30 per cent. of the compounds (other than C.C.F.) supplied in the United Kingdom. The company ascribes the gradual improvement in the United Kingdom fertiliser industry in the 1930s to its own development and concomitant rationalisation of production and improvements in efficiency as well as to the measures taken by the Fertiliser Manufacturers' Association Ltd. (F.M.A.) and to the tariff imposed on superphosphate in 1934 (see Chapter 2). The

* Fisons' submissions are given in greater detail in Chapter 14.

improvement in its own financial position enabled Fisons to pay a dividend to ordinary shareholders in 1930 for the first time since 1925 (3 per cent., against 2½ per cent. in 1925); the dividend had increased to 10 per cent. by 1938. Fisons stresses, however, that the period was one of fierce competition and that the company's existence was in constant danger from Imperial Chemical Industries Ltd. (I.C.I.). This latter aspect is dealt with in detail in paragraphs 194 to 198 below. It may be said here that Fisons' compounds (like those of most other manufacturers) were based on single superphosphate, ammonium sulphate and potash. I.C.I. controlled most of the available supplies of ammonium sulphate and marketed a new type of compound, C.C.F., which was based on ammonium phosphate and was more concentrated and cheaper in terms of nutrients than any other on the market. Fisons was a party to the I.C.I./F.M.A. agreement of 1934, designed to regulate terms for supplies of ammonium sulphate and the prices of compounds, but its decision, taken in conjunction with the West Norfolk Farmers' Manure and Chemical Co-operative Company Ltd. in 1937, to set up Nitrogen Fertilisers Ltd. for the manufacture of synthetic ammonium sulphate led to the revocation in 1939 of the 1934 agreement. Supplies of ammonium sulphate from the new plant became available in 1940.

The 1939-45 War

179. The outbreak of war in 1939 introduced for Fisons, as for other fertiliser manufacturers, a period during which raw materials and certain fertilisers were imported and sold by the Government, fertiliser production was subsidised and prices and distribution controlled. Some standardisation of compounds was also effected by the introduction of the "National Compounds", which were manufactured by Fisons and others. The company says that, so far as possible, it continued during the period of control the policy of expansion, rationalisation and improvement in efficiency which it considered to be in the national interest.

Company and Policy Developments from 1942

180. In 1942 the name of the company was changed to Fisons Limited, and a major change in policy also took place. This was the adoption of a new national sales policy under which all companies in the organisation sold Fisons' brand fertilisers. By exception two of the subsidiary companies' brand names were retained, and "George Hadfield" and "De Pass" brand fertilisers continued to be offered under those names. In the same year National Fertilizers Ltd. became a wholly owned subsidiary, I.S.C. exchanging its 200,000 ordinary £1 shares in the company for 160,000 "B" ordinary £1 shares in Fisons which were created for the purpose. A memorandum of "common intentions and understandings" was signed which, broadly, safeguarded Fisons' fertiliser interests against competition from I.S.C. and the latter's sulphuric acid interests against competition from Fisons, while Fisons was to take certain minimum quantities of acid at special terms from I.S.C.*

181. Gradually the assets and liabilities of the majority of its subsidiary companies were transferred to Fisons and the companies placed in voluntary liquidation. In the period 1943 to 1945 five more companies, trading in

* The restrictive clauses were revoked in July, 1956. I.S.C. has now only a small holding in Fisons.

the North of England and Scotland, were acquired. These were the last fertiliser companies to be acquired by Fisons as going concerns.*

182. After the adoption of the national sales policy in 1942, Fisons continued to trade both direct with the farmer and with the merchant, according to the pattern of trade of the various small companies before they were acquired. In 1949, after much discussion within the company, it was decided that, with the exception of George Hadfield & Co. Ltd., which was to continue to sell direct to farmers, sales should be made solely through agricultural merchants. Among other considerations it had been estimated in the previous year that £3 million of working capital would be released if the company ceased to finance farmers' outstanding accounts. As it was handing over to the merchants the whole of the retail goodwill with the farmers it was considered wise to obtain assurances from the merchants' organisation, the National Association of Corn and Agricultural Merchants Ltd. (N.A.C.A.M.), that once the retail sales organisation was dismantled the merchants would not establish their own mixing plants and sell their own products to the retail interest handed over to them. Fisons accordingly reached an understanding with N.A.C.A.M. by which it undertook to place an increasing proportion of trade through merchants while N.A.C.A.M. gave "assurances" that it would discourage the purchase of imported superphosphate and compounds and the extension of dry mixing and encourage the orderly marketing of Fisons' products. The assurances on the part of N.A.C.A.M. were terminated in 1955 at Fisons' instance. Fisons tells us that at no time was any attempt made to secure implementation of the assurances or any further discussion held between Fisons and N.A.C.A.M. concerning them.

New Production

183. Fisons estimates its share of trade in 1944-45 as 32½ per cent. of the superphosphate, 35 per cent. of the ground rock phosphate and 40 per cent. of the compounds (excluding C.C.F.) supplied in the United Kingdom. In the same year the Government made known its view that large increases in superphosphate capacity would be required and for some years after the war there were shortages of superphosphate in England and Wales, relieved by imports and, on occasion, by supplies from Scottish Agricultural Industries Ltd. (S.A.I.). In response to the Government's wishes Fisons made plans to increase its capacity. A new works at Immingham Dock was opened in 1951 and triple superphosphate and concentrated compounds based on it began to be manufactured in 1952. The threat of sulphur shortage (which Fisons judged, correctly, to be less serious than the Government expected) almost led to a postponement. Production was at first accompanied by technical difficulties and for some time Fisons did not, as a matter of policy, sell triple superphosphate to other compounders, preferring to sell its own concentrated compounds.† In April, 1954, partly it appears from Fisons' records as the result of some pressure from the F.M.A. certain of whose members had threatened to import the product, and partly as the result of increased production, Fisons decided that if it had triple super-

* The land and buildings of two other fertiliser companies were purchased, after trading operations had ceased, in Norfolk and Shropshire in 1954 and 1956 respectively.

† The most concentrated of the new compounds marketed by Fisons in 1952-53, No. 31, contained 33 units per cent. of plant food. I.C.I.'s C.C.F. No. 1 contained 39 units. The older types of compound, based on single superphosphate, marketed by Fisons contained 25 units or less.

phosphate to spare it should be offered to members of the Superphosphate Manufacturers' Association Ltd. (S.M.A.) and dry mixers; it now sells the product freely.

184. Fisons has told us that its decision to base a large part of its increased phosphate capacity on triple superphosphate and not ammonium phosphate, and its consequent production of compounds based on triple superphosphate rather than a C.C.F. type compound, was due mainly to the size of its investment in single superphosphate, to the lack of the adequate supplies of ammonia essential for the economic production of C.C.F., and also to the lack of the necessary technological information. A subsidiary reason was that Fisons took the view, which the company says was at this time widely held, that C.C.F. had certain agronomic disadvantages; moreover, the company failed to appreciate the economies in distribution effected by concentration. The economy of C.C.F. in price per nutrient was considered to be due to the fact that I.C.I., having a source of ammonia, was in a position to charge its own compounding works less for nitrogen than it charged the mixing industry when selling it as ammonium sulphate. Fisons says that I.C.I.'s selling price for ammonia was dearer, per nitrogen content, than for ammonium sulphate.

185. As regards a possible expansion of Fisons' own ammonia production, the company considered that, until about 1954, it would not have been free to effect this without first informing I.C.I. (This matter is dealt with in the account of the relations between I.C.I. and Fisons in paragraphs 199 to 212 below.) Quite apart from this, however, Fisons states that it was in no position during these years to do so. An ammonia synthesis plant of economic size would have been far beyond its financial resources, already strained by the building of Immingham; and the only way in which nitrogen expansion could have been accomplished would have been by acquiring the Prudhoe plant (see paragraph 129) in which it had at one time, on inquiry, told the Ministry of Supply and the Board of Trade that it would be interested. Fisons also took the view in these years that there was a surplus of nitrogen capacity in the United Kingdom.

186. By 1954 Fisons no longer felt itself to be under any obligation to I.C.I. The question of nitrogen production began to be considered and the company's chemists to explore the use of ammonium nitrate or similar material with high nitrogen content in concentrated compounds. The timing of the decision to expand the company's nitrogen interests was largely determined by the final breakdown in 1954 of Fisons' repeated attempts to get more advantageous terms from I.C.I. on purchases of ammonium sulphate, described in paragraphs 209-212 below. In 1955 a proposal to supply ammonia was received from Shell Chemical Co. Ltd. and development work on the use of ammonium nitrate in compounds went forward. In May, 1957, Fisons concluded an agreement to purchase ammonia and nitric acid from Shell for the manufacture of ammonium nitrate in a new factory to be built at Stanford-le-Hope.

187. Fisons has summarised the reasons for undertaking this expansion of nitrogen capacity as follows: (i) the assurance of continuity of supply of nitrogen; (ii) the company's dissatisfaction with what it considered to be the inadequate allowance given by I.C.I. on its very large purchases of ammonium sulphate; (iii) the technical unsuitability of ammonium sulphate

for making the company's new concentrated compounds. The arrangement with Shell Chemical Co. Ltd. was attractive because that company provided the ammonia capacity, the cost of which, in addition to that of Fisons' new ammonium nitrate plant, would have been quite beyond the latter's resources. As regards Fisons' first point it seems that both Fisons and I.C.I. had revised their earlier opinions and now considered that there was a need for additional nitrogen capacity in the United Kingdom.

Other Post-War Developments

188. Of the developments in the fertiliser industry which took place in the period of decontrol, beginning in 1952, the following are of particular interest in regard to Fisons.

189. *Imported basic slag.* As already described in paragraph 76, Fisons took part in the arrangements made by the Basic Slag Producers Association (B.S.P.A.) for the distribution of slag imported by the Government from 1946 to 1952 and for the procurement of supplies in 1952-53 and 1953-54. In 1952 the Government Departments concerned accepted undertakings from the B.S.P.A. and the three companies originally concerned that they would do their best to ensure equitable distribution, and it was agreed that it would be necessary for them to control, as far as possible, supplies of imported material in England and Wales though it was made clear that import licences could not be refused to other purchasers. British Basic Slag Ltd. (B.B.S.) and the B.S.P.A. having dropped out by 1954, procurement was subsequently taken over by Fisons and S.A.I., who were recognised by the Continental suppliers and their British agents as having, like the Government before them, exclusive access to these supplies so far as buyers in Great Britain were concerned.

190. *The Phosphate Rock Agency Ltd.* As we have said in paragraph 76, Fisons were among those producers who would have preferred to have complete autonomy in the purchase of rock when Government procurement came to an end in 1952; the compromise solution of the Phosphate Rock Agency which was finally accepted by the trade was proposed by Fisons.

191. *Price decontrol.* On the decontrol of fertiliser prices in 1953 Fisons was opposed to any continuance of price regulations by the trade, or even price discussion within the associations. In a letter of 20th March, 1953, to the governing bodies of the F.M.A. and S.M.A. it was made clear that, while the Board of Fisons shared the concern of the other members of the industry in the maintenance of orderly marketing conditions, in their opinion "it would be contrary to the best interests of the industry as well as to Government policy that there should be discussion of prices. In view of this fact their representatives cannot, therefore, take any part in such discussions". As one of the most important suppliers the company was prepared to act, for a time, as a price leader in order to smooth the transition from decontrol and to maintain some stability (see paragraph 78).

192. Informal exchanges of views on prices took place between the senior sales staffs of Fisons and of some other manufacturers until June, 1954, and for another two years Fisons continued to give competitors prior notice of intended price changes. On 18th July, 1956, the Board of Fisons passed a resolution that "Fisons Limited and its subsidiaries are opposed in prin-

ciple to being a party to any agreements, recommendations or practices which would be within Clause 6 of the Restrictive Trade Practices Bill”.

Other Interests

193. In 1937 Fisons acquired a controlling interest in Genatosan Ltd., and since the war it has further extended its interests outside the field of fertilisers. They now include pharmaceuticals, medicines, fine and industrial chemicals, pest control products and milk powders. In most cases the diversification has been achieved by the acquisition of existing companies. Fisons collaborated with other manufacturers in setting up the United Sulphuric Acid Corporation Ltd., to manufacture sulphuric acid from anhydrite, in 1951.

II. THE RELATIONS OF FISONS AND I.C.I.

194. I.C.I.'s predecessor entered the fertiliser industry with synthetic ammonium sulphate in 1923, Nitro-Chalk in 1927 and C.C.F.'s based on ammonium phosphate in 1931, and I.C.I. took over from Nitram Ltd. the sole agency for B.S.A.F. supplies of sulphate in the latter year. The older manufacturers, including Fisons, whose interests lay principally in single superphosphate and compounds based thereon, accordingly found themselves faced with a company with greater resources both financial and technical than their own, on which they depended largely for supplies of ammonium sulphate,* and which was selling a concentrated compound cheaper, in terms of its nutrients, than any other on the market. The extent to which C.C.F. was likely to become a real competitor to the established compounds was not, perhaps, entirely clear. One technical opinion, which was shared by Fisons, was that it was too soluble, too pure and too concentrated. Fisons was, however, concerned about the competitive advantages which I.C.I. possessed. A Board minute of 15th February, 1934, records that I.C.I. was offering merchants better terms for C.C.F.'s and ammonium sulphate than it was prepared to give members of the F.M.A., and one of 31st May, 1934, records the general opinion of the meeting that no long agreement should be entered into with I.C.I. for the purchase of Fisons' requirements of ammonium sulphate unless the F.M.A. were given control of C.C.F.'s.

195. Negotiations were pursued and on 26th September, 1934, an agreement was made between I.C.I., the F.M.A. and each member of the F.M.A. who wished to enter the agreement. The principal provisions may be summarised as follows:

- (i) I.C.I. should supply the whole of F.M.A. members' requirements of ammonium sulphate, Nitro-Chalk, C.C.F.'s, N.P. fertilisers and synthetic sodium nitrate for resale and ammonium sulphate and ammonium phosphate for mixing purposes. The terms for fertilisers for resale were the "best terms" allowed to agents; terms for mixing sulphate comprised agent's discount, an early delivery rebate, a deferred rebate related to annual tonnage taken, and an allowance for taking delivery in bulk. The tonnage rebate was to be allowed exclusively to members of the F.M.A.

* Previously compounders had negotiated with the B.S.A.F. I.C.I. as selling agent now assumed responsibility for these negotiations. I.C.I. has said that ample supplies were available in the 1930s outside the B.S.A.F. but Fisons said that these were unsuitable for mixing,

- (ii) There should be an agreed price structure for compounds. I.C.I. undertook that the farmer's price per ton for C.C.F.'s should be not less than the retail price of the equivalent straight fertilisers plus a mixing charge of at least 25s. F.M.A. members undertook that the minimum prices of their own compounds would be similarly determined, the minimum mixing charge bearing a relation to the average actual mixing charge for C.C.F.'s which was to be determined by the nutrient content of the compound.
- (iii) I.C.I. would not sell C.C.F.'s containing less than 30 units of plant food and declared its intention not to increase its interests in the manufacture of superphosphates or compounds based thereon in the United Kingdom, other than in Scotland.*
- (iv) I.C.I. should appoint no further agents for C.C.F.'s provided that the F.M.A. members purchased annually not less than certain specified tonnages ranging from 8,000 tons in 1934-35 to 14,750 in 1938-39. Not less than 60 per cent. was to be sold for consumption in the Eastern Counties.

The agreement was to operate for five years as from 1st July, 1934, and then year by year, subject to twelve months' notice of determination from I.C.I. or any member of the F.M.A.

196. Fisons has told us that the arrangements embodied in the agreement could and did only represent a temporary *modus operandi*, that I.C.I. still had a monopoly of ammonia and was believed to have arrangements with every European supplier who could have been a source of imports; that it was thought that I.C.I. intended to increase production of C.C.F., which constituted a technical and commercial threat to Fisons' compounds; and that it was widely believed in the English market that I.C.I. was about to pursue in England the policy of acquiring an interest in fertiliser companies which it had already put into effect in Scotland. Fisons felt its very existence was threatened by I.C.I. Accordingly, within two years of the signing of the agreement, Fisons was considering the production of nitrogen and in 1937, in collaboration with the West Norfolk Farmers' Chemical Manure and Co-operative Company Ltd., it set up Nitrogen Fertilisers Ltd. to manufacture synthetic ammonium sulphate at Flixborough for use in the compounds of the two proprietary companies. Summing up the position, Fisons' representatives have said that the "reason and the sole reason was that some time previously I.C.I. had entered the compound fertiliser field with their C.C.F. based on ammonium phosphate. The trade and Fisons in particular saw that with I.C.I. having a monopoly of nitrogen it would be possible for them to subsidise the sale of their C.C.F. by charging the mixing industry a higher price for nitrogen than they charged themselves".

197. I.C.I. made strenuous objections to Fisons' proposal to manufacture. From the early 1930s I.C.I.'s own capacity had been half idle as was also world capacity generally. I.C.I. has told us that the output of United Kingdom by-product plants alone was well in excess of home demand, so that the Flixborough project would have had the effect of displacing 50,000

* I.C.I. has said that this intention was a consequence of its view that C.C.F.'s were technically superior to compounds based on superphosphate; its superphosphate production in England and Wales was negligible.

tons of by-product ammonium sulphate from the home market at a time when there was little prospect of increasing total sales of United Kingdom ammonium sulphate overseas. The B.S.A.F., and later I.C.I., therefore made strong representations to Fisons not to proceed with an addition to total United Kingdom capacity which they considered wasteful and unnecessary; as moreover I.C.I.'s own ammonium sulphate business was on a much larger scale it seemed inevitable that Flixborough would by comparison be a high cost producer. The B.S.A.F. and I.C.I. were anxious to supply ammonium sulphate to Fisons, and I.C.I. considers that, although it has never sought to dominate the compound market, the threat of competition from C.C.F. rather than any real difficulty as to terms for supplying ammonium sulphate led to Fisons' decision. Fisons has told us that although the plant has since become profitable the proposed unit was regarded at the time as too small to be economic compared with the large I.C.I. units, even though the tonnage to be made was more than the company needed. The plant would never have been erected but for I.C.I.'s policy in regard to the supply of ammonium sulphate and the production and sales of C.C.F.'s. At one point in the discussions which ensued Fisons asked for the sole agency for C.C.F. as a condition of abandoning nitrogen production. This was not forthcoming and Fisons accordingly pursued its plans. Fisons says that it met considerable difficulty in obtaining plant and know-how, for which it lays the responsibility on I.C.I. and I.G. Farbenindustrie. I.C.I. disclaims all responsibility or even knowledge of this. Fisons finally managed to buy the plant in parts from various sources. The war began before it was erected and through the Ministry of Supply help was obtained from I.C.I. in training operators and starting up the synthesis unit in 1940.

198. The I.C.I./F.M.A. agreement was terminated in June, 1939, I.C.I. having given the required twelve months' notice in the previous year. This step was taken, I.C.I. tells us, because with the setting up of Nitrogen Fertilisers Ltd. F.M.A. members would no longer be purchasing their total requirements of ammonium sulphate from I.C.I. Members of the F.M.A. had also failed to take up the prescribed minimum tonnages of C.C.F. As a result the special graduated tonnage rebate on sulphate bought for mixing purposes was discontinued and all F.M.A. members received instead a deferred rebate fixed from year to year at a flat rate per ton.

199. The war brought I.C.I. and Fisons closer together. On 20th December, 1944, representatives of I.C.I. and Fisons met to discuss a number of matters of common interest which were brought forward and summarised by the Chairman of the Billingham Division of I.C.I. under 18 points, subsequently circulated in a memorandum. As set out in the memorandum, the principal propositions for discussion were that the parties should recognise that in England and Wales manufacture of P_2O_5 was dominated by Fisons and of nitrogen by I.C.I.; that compounds containing both were of common interest; that each party should recognise "the de facto excursion" of the one into the other's dominant field and "the propriety, both from a national and commercial point of view, of ensuring full and efficient working of installed plant. The policy may, perhaps, be best expressed as the 'removal of bottlenecks' but major extensions to plant now in operation is definitely excluded". As Fisons had access to unrestricted quantities of nitrogen, I.C.I. should enjoy the same position relative to P_2O_5 , but as I.C.I. was

mainly interested in concentrated compounds this could probably be achieved by a reasonable purchase of triple superphosphate when it was manufactured by Fisons. Should Fisons wish to manufacture compounds containing 40 units, I.C.I. would facilitate this, grant licences on reasonable terms and help with the manufacturing "tricks of the trade". I.C.I. was to retain unrestricted freedom in research but some measure of collaboration in production research and some understanding as to its commercial exploitation could be considered; field research might also be the subject of collaboration. Other points suggested the setting up of an inter-company panel to consider and agree both companies' publicity material for fertilisers and the advice to be given to farmers, and the examination of the possibility of a uniform price structure for both companies' compounds. It was also proposed that there should be discussion at an early date of the possibilities of an arrangement for Scotland, where Fisons had recently acquired a number of fertiliser companies, one of which had had a trading agreement with Scottish Agricultural Industries Ltd. (S.A.I.).

200. Discussions between the two companies on these suggestions went on intermittently for some years. In 1945 a Fisons/I.C.I. Technical Development Committee was set up, which remained in being until 1950, and in 1947 a trading agreement, relating to sales in Scotland of fertilisers derived from phosphate rock, was made between Fisons, S.A.I. and R. & J. Garraway Ltd., which lasted until 1953.* The committee, which was not formally constituted, concerned itself with the discussion and formulation of general recommendations for fertiliser application for the principal crops. It prepared a list of six plant food ratios for compounds, representing the minimum which, supplied as compound fertilisers, could reasonably be expected to provide for the main conditions of soils, crops and climate in England and Wales. This was agreed by the F.M.A. and submitted to the National Agricultural Advisory Service (N.A.A.S.). A report by the committee on the use of fertilisers on grassland was submitted to the N.A.A.S. in 1951.†

201. As regards the status of their other discussions from 1945 to 1954 there is some conflict between the respective statements made to us by the two companies. Both are agreed that no formal or final agreement on the matters discussed was ever reached. Fisons has said that up to about 1954 the company regarded itself as a party to an informal understanding not to extend its interest in nitrogen provided that I.C.I. did not extend its interest in C.C.F.'s. The Chairman of Fisons has told us that, up to about that year, when the Chairman of the Billingham Division of I.C.I. made it clear to him that he did not regard Fisons as bound in any way, he would not have felt it right to plan any extension in the nitrogen field without first telling I.C.I. Fisons, however, while firmly of the view that the understanding existed, does not consider that it made any practical difference, each company being sufficiently occupied in other ways, Fisons with single superphosphate, triple superphosphate and compounds based thereon and I.C.I. with non-fertiliser interests. I.C.I., on the other hand,

* See paragraphs 89 and 148. The proposals were embodied in an exchange of letters and the agreement was not formally confirmed.

† Fisons regards the matters described in paragraphs 202 to 204 below as also within the province of the Technical Development Committee.

has assured us categorically that there was no such understanding but agreed with Fisons that had there been one it would have made no practical difference; I.C.I. was indeed fully occupied with nitrogen and non-fertiliser interests and, apart from S.A.I., had no interest whatever in the manufacture of superphosphate. There was, the company says, no inducement to build a new C.C.F. plant as long as price control continued, as it would not have shown a worthwhile return on capital. I.C.I.'s account is that in the prevailing economic circumstances the two companies attempted during 1944 and 1945 to come to some agreement in regard to the orderly development and marketing of fertilisers, collaboration on matters of common interest, and technical developments, but the only agreement reached was in the setting up of the technical development committee and its subsequent recommendations. According to I.C.I., the original discussions came to an end in 1946, but the subject matter was again raised by Fisons in 1947; the resumed discussions continued until early 1948, when it became plain that no basis for an understanding could be found.

202. To some extent it has been possible to supplement these accounts from the minutes of the two companies, although these do not provide a complete reconstruction of what took place. The minutes of both companies confirm that from 1944 to 1948 there were from time to time discussions between them. In the earlier part of 1945 each company appears to have been ready to continue the discussions on a broad basis with a view to reaching an agreement based on I.C.I.'s 18 points, but no further mention of the matter has been traced for the next 2½ years. Late in 1947 there is mention in both companies' records of a proposal to join with the Northern Ireland producers of superphosphate in a scheme to extend the manufacture of superphosphate and compounds there. Fisons' Board agreed to explore this further provided it were possible to come to some fair arrangement for England and Scotland, but in I.C.I.'s records the matter of Northern Ireland is mentioned in isolation. In December, 1947, the agreement with S.A.I. relating to Scotland having been reached (see paragraph 200), Fisons' Board discussed the terms of a proposed agreement with I.C.I. and decided that negotiations should continue. There are references in both companies' minutes to meetings and correspondence early in 1948 between directors of Fisons and a director of I.C.I.; according to the latter's report to the I.C.I. Board "Billingham Division will probably make not more than three of [the six standard compound ratios recommended to the N.A.A.S. by the Fisons/I.C.I. Technical Development Committee] but in my discussions with the Chairman of Fisons the possibility of our Sales Offices marketing some of their compounds in exchange for Fisons receiving smaller quantities of Billingham concentrated fertilisers has been mentioned". According to Fisons' minutes, in December, 1948, a further meeting with the director of I.C.I. had been arranged and Fisons' Board agreed in principle to consider "reciprocal trading"* with I.C.I. if a satisfactory basis could be agreed. The records of both companies show that the proposal for Northern Ireland was further investigated during 1948; according to Fisons' records the two companies agreed in 1949 not to proceed with it.

203. The records subsequent to 1948 continue to refer to meetings and discussions between the two companies; although the wider purpose of the

* i.e. an exchange of products to complete each company's selling range.

original conversations is referred to from time to time, it is perhaps a matter of opinion whether those which took place from 1949 onwards were regarded as continuing them or as ad hoc discussions of a number of matters of mutual interest. I.C.I. regards them as ad hoc discussions and says that all the new projects discussed were designed to reduce the amount of imported sulphur and potash used in the manufacture of fertilisers, in accordance with Government policy at the time.

204. The principal matters which appear to have arisen for discussion between the two companies from 1949 to 1954 were the development to commercial scale of processes to reduce the consumption of sulphuric acid in fertiliser manufacture (e.g. nitrophosphate production and the ammoniation of superphosphate), the building of additional plant to make sulphuric acid from indigenous anhydrite and a possible joint venture on the mining of potash in Yorkshire. Fisons also from time to time raised the question of I.C.I.'s terms for the sale of sulphate of ammonia to compounders in general and Fisons in particular (see paragraph 209).

205. I.C.I.'s attitude to these exchanges appears to be summed up in two minutes of the Billingham Board. In the first of these, in January, 1949, it is said that "as regards the position relative to Fisons, it had been made clear to them that I.C.I. were completely free to engage in research in any part of the fertiliser field. In a case, however, where a fertiliser found by I.C.I. fell within the phosphate group, we would offer Fisons an opportunity to collaborate in development and, if they were not interested, we were at liberty to proceed ourselves". The second minute is in June, 1950, when the Commercial Managing Director is reported as saying "that the Division had not entered into any arrangement with Fisons regarding phosphate fertilisers, but if the Division did seriously consider entering this field, it would be desirable to have fresh discussions with Fisons before doing so".

206. There is a slightly different emphasis, however, in some of Fisons' minutes. Thus in January, 1949, a minute records, in relation to a proposed joint project with I.C.I. for the production of silicophosphate, that the Board "agreed to accept the principle of an exchange of products, provided a satisfactory solution of the marketing problem could be found". Moreover Fisons' records appear to show that a further meeting between members of its Board and a director of I.C.I. took place in September, 1950, and was followed by another meeting in October between representatives of the two companies "to continue the discussions which had taken place at various times between I.C.I. and Fisons with a view to an exchange of products and reciprocal concessions on prices". At this latter meeting I.C.I.'s representative is recorded by Fisons as saying that "sales of C.C.F.'s* were far in excess of their capacity"; that I.C.I. had made some expansion of its production facilities but was still within the limits originally discussed; that as Fisons had triple superphosphate available and was producing high analysis compounds the need for C.C.F. to complete Fisons' range did not arise, and that he considered that the only opportunities for reciprocal trading which now existed lay in the use of a process perfected by I.C.I. for dissolving phosphate rock in nitric acid and in arrangements for the supply of ammonia liquor or ammonium nitrate

* I.C.I. says this should be "demand for C.C.F.".

solution for the ammoniation of superphosphate. Fisons having pointed out that the original discussions envisaged the company being allocated a proportion of I.C.I.'s increased output of C.C.F.'s in return for an undertaking not to expand its production of nitrogen, I.C.I.'s representative is said to have stated in reply to a specific question that he would now consider Fisons to be completely free to undertake any expansion it desired with regard to nitrogen. Fisons' Chairman's Committee, at a subsequent meeting, debated whether this was a calculated statement designed to end the agreement (i.e. the understanding which Fisons believed to exist); the director who had been present did not think that I.C.I.'s representative had considered the point before the meeting, the statement arising naturally out of the fact that I.C.I. felt there was no longer room for an agreement on exchange of products and spheres of interest.

207. The processes for the production of nitro-phosphate and the ammoniation of superphosphate were duly examined by Fisons in 1951 but no commercial use was made of them. In the same year Fisons accepted I.C.I.'s proposal to join I.C.I. and certain other companies in setting up the United Sulphuric Acid Corporation Ltd. to manufacture sulphuric acid from anhydrite, for which I.C.I. provided the know-how from its experience at Billingham. A year or so before this Fisons and I.C.I. had begun to explore, independently, the potash deposits in North Yorkshire. In 1951 Fisons accepted a proposal from I.C.I. to continue this work in collaboration. The project was abandoned as uneconomic in 1955. Throughout this period both I.C.I. and Fisons made repeated efforts, some in collaboration, to secure more advantageous terms for purchases of potash from abroad. These were largely successful.

208. During the period up to 1954 Fisons increased its phosphate capacity, principally by building the Immingham factory, and began the production of triple superphosphate and triple based compounds at the same works. We have already recorded Fisons' reasons for basing a large part of its increased capacity on triple superphosphate and not ammonium phosphate and its consequent production of compounds based on triple superphosphate rather than of the C.C.F. type, and also its statement that, apart from the understanding which it considered it then had with I.C.I., the building of an economic sized ammonia plant would have been quite beyond its financial resources (see paragraphs 184 and 185). Fisons regards the understanding with I.C.I. as having come to an end about 1954, when it began to consider the expansion of its own nitrogen capacity and the production of compounds based on ammonium nitrate or other material of high nitrogen content (see paragraph 186). As we have explained one of the determining factors for Fisons was its dissatisfaction with the terms allowed on its purchases of ammonium sulphate.

209. In the post-war period up to 1954 Fisons made repeated efforts, which were not successful, to secure from I.C.I., as selling agents for the B.S.A.F., more advantageous terms for its purchases of ammonium sulphate. The question was inevitably related to some extent to that of a possible general trading agreement with I.C.I. but it was agreed at a meeting between the companies on 7th March, 1945, that terms for mixing sulphate were a matter for negotiation with the F.M.A. "although part of the consideration for a scale of rebates might arise from an I.C.I./Fisons understanding".

At the meeting in October, 1950 (see paragraph 206), according to Fisons' record, its representatives agreed that sulphate was not within the scope of "reciprocal trading" but said that the time had come to reconsider the basis of Fisons' purchases in order to return to some arrangement which would give that company an advantage justified by the size of its purchases. I.C.I.'s representative replied that, under price control, it would be impossible to make concessions as these could not be recovered in selling prices to other customers. According to I.C.I. he also said that, as in the past, I.C.I. would first negotiate terms with the F.M.A. and then make contracts with individual members. Representations by the F.M.A. in 1951 for an increased bulk allowance were also unsuccessful, I.C.I. saying that the allowance could not be borne by the producers but that, if the F.M.A.'s claim was justified, an approach might be made to the Board of Trade for an increase in price.

210. In May, 1953, Fisons decided to negotiate direct with I.C.I. and not through the F.M.A., but was still offered the same terms as other F.M.A. members, which the company considered unsatisfactory. A further attempt was made by Fisons to secure an increased allowance at a meeting with I.C.I. on 2nd April, 1954. According to Fisons' records the company's representative pointed out that price control had now been lifted but that I.C.I. had taken advantage of this to increase prices, and that I.C.I. itself insisted on having special terms when buying materials in large quantities and was now enjoying substantial rebates from the potash producers as a result of Fisons' negotiations.* This was followed by a letter from the Chairman of Fisons to a director of I.C.I. on 28th May, 1954, setting out at length the company's case for special terms on its supplies of ammonium sulphate. In this letter it was argued that there should be a price structure for ammonium sulphate which would allow the compound fertiliser manufacturer to earn a profit on the sulphate included in his compounds, and also that, as a large buyer, Fisons in particular was entitled to special terms; the current mixing allowances were compared with the pre-war ones, and it was said to be Fisons' impression that I.C.I.'s policy to the compounding industry had altered. Reference was also made to the proposals for exchange of products at special prices which had been one of the subjects of the earlier discussions between the two companies. I.C.I.'s reply of 29th June stated that Fisons' analysis of the present price structure was not agreed and that I.C.I. had not changed its policy towards the compound fertiliser industry; it was clearly time completely to review the sales structure for ammonium sulphate and it was proposed to open discussions with the B.S.A.F. for this purpose in due course, but it was not possible to make any alterations in terms for 1954-55, the price structure having already been determined and published. On the discussions which had taken place in 1944 and onwards the reply said "it is clear that on all occasions when you pressed your claim for special terms a general agreement for the mutual exchange of products was the subject of discussion. We cannot find any evidence that we on our side recognised your claim as being other than one of the matters to be considered within the framework of a general understanding about nitrogen and phosphate and we had reservations even

* This latter claim is not accepted by I.C.I.

on this point [referring to the memorandum of the meeting of 7th March, 1945—see paragraph 209 above] . . . terms for mixing sulphate were to be negotiated with the F.M.A. as a whole”.

211. I.C.I. has told us that it was not in fact free, as Fisons supposed, to increase allowances to compounders without the approval of the Ministry of Materials in the fertiliser years 1953–54 and 1954–55. I.C.I. during these two fertiliser years was still operating under a non-statutory form of price control (see paragraph 132) and was still selling agent for the Government’s production of ammonium sulphate at Prudhoe. I.C.I. has also given us a number of reasons why, in its view, Fisons’ case was not a good one (see paragraphs 431, 526 to 529 and 541).

212. Fisons decided that there was nothing to be gained by pursuing the matter further and that the possibility of increasing the company’s own production of nitrogen should be examined forthwith. The subsequent developments, i.e. the agreement made in 1957 to buy ammonia from Shell Chemical Co. Ltd. for the manufacture of ammonium nitrate for use in concentrated compounds, have been described in paragraphs 186–187.

III. PRESENT STRUCTURE AND ORGANISATION

213. Fisons Limited is a public company, incorporated on 23rd July, 1895, under the name of Edward Packard and Company Limited. The present name was taken in 1942. It has an issued share capital of £4,258,900 4½ per cent. cumulative preference stock and £7,739,817 ordinary stock; a loan capital outstanding of £3,128,153 4½ per cent. first mortgage debenture stock, and £5,000,000 6 per cent. unsecured loan stock. In the United Kingdom the company has four subsidiary companies concerned with the supply of fertilisers, and some thirty subsidiary and associated companies, not all active, variously concerned with chemicals, pharmaceuticals, pest control, milk products and ancillary matters. It has eighteen subsidiary and associated companies overseas variously concerned with fertilisers, chemicals and pest control. The sales of chemical fertilisers by the Fisons Group in the United Kingdom in 1957–58 amounted to just over £29 million, representing rather less than three-quarters of the total group turnover.

214. The United Kingdom fertiliser subsidiaries are Corby Basic Slag Ltd., De Pass Fertilisers Ltd., George Hadfield and Company Ltd. and Nitrogen Fertilisers Ltd. Fisons hold 100 per cent. of the shares of the first three companies and 75 per cent. of the shares of the other. Corby Basic Slag Ltd. supplies basic slag to Fisons. De Pass Fertilisers Ltd. does not trade; its brand name is used for organic-inorganic agricultural fertilisers, manufactured and supplied by Fisons. George Hadfield & Co. Ltd. supplies fertilisers, principally compounds under its brand name which are manufactured by Fisons; over three-quarters of its trade is direct with farmers. Nitrogen Fertilisers Ltd. manufactures and supplies ammonium sulphate to Fisons and to West Norfolk Fertilisers, which holds the other 25 per cent. of its share capital.

215. Since 1955 the Fisons Group has been organised on a Divisional basis. In the arrangement then adopted the Fertiliser sections, home and overseas, were part of the Fertilisers and Heavy Chemicals Division, and the Board of Fisons was responsible for the administration of the Fertiliser sections as well as for the policy matters affecting all Divisions. Since

1st January, 1958, there has been a separate Division for fertilisers with a Divisional Board. The Fertiliser Divisional Board consists of a number of directors of the main Board of Fisons, the Director of the Levington Research Station and two others, and is responsible for the administration of the Division, policy matters remaining with the main Board.

General Organisation of Fertiliser Production and Supply

216. Fisons manufactures and markets single and triple superphosphate, ground rock phosphate and compound fertilisers, and markets basic slag obtained from its subsidiary, Corby Basic Slag Ltd., and by importation. Fisons also merchants potash, Nitro-Chalk, sodium nitrate and C.C.F. obtained from other suppliers, and ammonium sulphate, obtained from the B.S.A.F. and to a smaller extent from its own subsidiary, Nitrogen Fertilisers Ltd. The sales of these fertilisers, divided as between the various classes of the reference, have been approximately as follows in recent years :

	1955-56	1956-57	1957-58
	£	£	£
Class (a) Nitrogenous fertilisers	536,000	487,000	404,000
Class (b) Potash	350,000	407,000	362,000
Class (c) Single and Triple Superphosphate	2,602,000	2,482,000	2,297,000
Class (d) Ground Rock Phosphate...	184,000	109,000	107,000
Class (e) Basic Slag	1,803,000	1,785,000	2,193,000
Class (f) Compounds	21,275,000	23,259,000	25,000,000
Totals	26,750,000	28,529,000	30,363,000

217. Fisons and its subsidiaries own and operate fourteen fertiliser works and some twenty fertiliser bagging plants, depots and stores. The works in operation in 1957-58 with their output of the various types of fertilisers, are shown in Appendix 7. Since then a number of the smaller works have been converted to store or closed and a new works has been opened at Stanford-le-Hope for the manufacture of ammonium nitrate. The main factories and warehouses are grouped geographically in five regions, viz. Scotland, North, East, South and West. The three largest superphosphate and compound fertiliser works, at Avonmouth, Immingham and Ipswich, are situated at tidewater and have direct unloading facilities for seagoing ships bringing supplies of materials, viz. imported phosphate rock, potash, sulphur and pyrites and also ammonium sulphate from Billingham.

218. Sales of agricultural fertilisers (and spray chemicals) are handled by five area sales offices covering the regions Scotland, Mersey and Northern, Humber, South Eastern and South Western. By exception the business of George Hadfield is handled centrally from Hadfield's sales office at Chester, and the sales of horticultural fertilisers are handled by the horticultural sales department operating from Fisons' head office at Felixstowe. De Pass fertilisers, which are specialised lines for hops, fruit and potatoes, and are consumed mainly in Kent and Sussex, are supplied through Fisons' South Eastern sales area office.

General Trading Arrangements

219. The detailed arrangements for Fisons' supplies of fertilisers in classes (c), (d), (e) and (f), which are principally of its own manufacture, are dealt with in Chapters 9 and 10. For ammonium sulphate bought from B.S.A.F., Nitro-Chalk and C.C.F., Fisons is classed as an agent and

receives the terms given by the B.S.A.F. and I.C.I. as described in Chapter 7. For potash bought from Potash Ltd. Fisons receives the terms described in Chapter 8. In so far as Fisons sells ammonium sulphate bought from its subsidiary company, Nitrogen Fertilisers Ltd., it charges the same prices as for its sales of B.S.A.F. sulphate.

220. Fisons' sales of chemical fertilisers are made to agricultural merchants, other manufacturers buying as compounders or sometimes as merchants, and farmers' co-operative societies. The only exceptions are in the business of George Hadfield & Co. Ltd., which is for the most part direct with farmers, and in the horticultural fertilisers trade: these latter fertilisers are sold to market gardeners and through retail shops. Fisons does not sell to agricultural contractors as such. Merchants (including co-operative societies discharging the same function) are selected, broadly, on an area basis, but regard is also had to their technical and commercial efficiency and standing with the farmers. Merchants and co-operative societies now provide the greater part of the transport used in distributing Fisons' fertilisers.

221. Fisons publishes prices for fertilisers in minimum 6-ton lots, with indicated extra charges for smaller quantities. The prices—which have the status of recommendations only—are prices to the farmer and, in most cases,* include delivery to the customer's nearest station. If delivery is taken ex works, whether by merchant or farmer, a collection allowance is made to the merchant who may pass this on to the farmer. Fisons' price lists state that there will be extra charges for delivery to farm; the amount is determined by the merchant who undertakes the service and is not regulated by Fisons. There are special terms for sales of superphosphate to mixers. The merchants' commission, mixing allowances, early delivery rebates and collection allowances given by Fisons on the various fertilisers are described in Chapters 9 and 10. Up to the end of the 1958–59 season terms provided for settlement 14 days after the end of the month in which delivery was made; a cash discount of 1d. in the £ was allowed for payment within 7 days.

Research and Technical Service

222. Fisons maintains a research station and experimental farms at Levington in Suffolk and another experimental farm at North Wyke in Devonshire. The station was opened in 1957 and employs a staff of nearly three hundred and forty of whom about ninety are graduates. The cost of research is now (in 1959–60) running at the rate of about £400,000 per annum. It covers such matters as the laboratory production and evaluation of new fertilisers, cheaper and better ways of making them, fertiliser application to the soil, and the movement of N, P and K atoms through soils into the plant, and considerable attention is paid to applied research. Fisons is in constant touch with the Agricultural Research Council, the Rothamsted Experimental Station and the various University Schools and Colleges of Agriculture.

223. Fisons also operates a technical and advisory service designed to help farmers to secure the best return for the money they spend on fertilisers and also to help them with problems connected with agriculture and

* The exceptions are potash for which the price quoted is free on rail or free on lorry at port, sales in Northern Ireland which are variously c.i.f., f.o.r. or f.o.l., compounds in Scotland which are ex works, and triple superphosphate sold for mixing which is also ex works.

horticulture in its broadest sense. The service is organised on the same area basis as the fertiliser sales force, to which it is an important auxiliary, and comprises seventy-five qualified technical representatives, as well as field research officers. In order to extend Fisons' service to farmers and its own knowledge of soil variations some 50,000 soil and crop samples are taken annually for routine analysis at Levington. Fisons also organises training courses for merchants at which they are given technical instruction in the company's products and their correct usage.

Relations with Other Companies

224. Fisons is a member of the Fertiliser Manufacturers' Association Ltd., the Superphosphate Manufacturers' Association Ltd., the Basic Slag Producers Association, the National Association of Corn and Agricultural Merchants Ltd., and the Fertiliser Society. The latter now provides the principal forum for collaboration on technical matters with other concerns. Fisons is also an associated charterer of the Phosphate Rock Agency Ltd. and a member of the National Sulphuric Acid Association Ltd., and holds 23.65 per cent. of the shares of the United Sulphuric Acid Corporation Ltd. of which it was one of the founders. In South Africa Fisons is in partnership with Albatros Superfosfaatfabrieken N.V. It has a holding in two European fertiliser companies, which are regarded as investments only, viz. about 22.8 per cent. in Acides et Superphosphates Standaert, Belgium (see paragraph 58) and 11.23 per cent. in the Société Industrielle d'Acide Phosphorique et d'Engrais, which manufactures triple superphosphate in Tunis, principally for export to France.

General Policy

225. As will be apparent from the historical section of this chapter, Fisons has not acquired any other fertiliser businesses for some years. Its share of the fertiliser trade generally has increased and important developments have taken place in regard to the production of nitrogenous materials and of more concentrated compound fertilisers and in research activities. Fisons' submissions with regard to its place in the fertiliser industry are set out in Chapter 14: it is sufficient to say here that its present avowed policy is to lead the industry in trading standards and efficiency and to maintain its share of the market but not to make "further major acquisitions of new fertiliser business in order to increase its share of the industry, unless there was clearly inability or unwillingness on the part of other members to provide the capacity necessary to satisfy demand".

CHAPTER 5. POTASH LIMITED

226. There is no production of potash in the United Kingdom although deposits exist in this country and attempts have been made to work them. *Before 1914 Germany was virtually the sole supplier of potash to Europe. At the end of the 1914-18 war the transfer of the Alsatian potash mines to France and increased productive efficiency led to a period of intense competition and low prices. In 1924 a provisional agreement was made between the German and French interests relating to sales to

* This account of the period up to 1939 is based on published information. Potash Ltd. says that it has no knowledge of the pre-war international cartel.